AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A method of managing atrial antitachycardia pacing (ATP) therapy in response to possible atrial lead dislodgment, comprising:

measuring an impedance of an atrial lead for a particular patient;

comparing the measured impedance with an impedance threshold developed for the particular patient; and

disabling atrial ATP therapy delivery in response to the measured impedance deviating from the impedance threshold by a predetermined factor.

2. (Original) The method according to claim 1, wherein the impedance threshold is developed from a single atrial lead impedance measurement.

3. (Original) The method according to claim 1, wherein the impedance threshold is developed from a plurality of atrial lead impedance measurements.

4. (Original) The method according to claim 1, wherein the impedance threshold is characterized by a mean or a median of a plurality of atrial lead impedance measurements.

5. (Original) The method according to claim 1, wherein the impedance threshold is characterized by an atrial lead impedance measurement taken immediately before a currently measured impedance.

6. (Original) The method according to claim 1, wherein the impedance threshold is characterized by at least one atrial lead impedance measurement taken a predetermined amount of time prior to the impedance measurement.

7. (Original) The method according to claim 6, wherein the predetermined amount of time is about one day.

8. (Original) The method according to claim 6, wherein the predetermined amount of time is more than one day.

9. (Original) The method according to claim 1, wherein measuring the impedance of the atrial lead comprises taking a plurality of impedance measurements to characterize the impedance of the atrial lead.

10. (Original) The method according to claim 1, wherein measuring the impedance of the atrial lead comprises taking a single impedance measurement to characterize the impedance of the atrial lead.

11. (Original) The method according to claim 1, wherein the predetermined factor is characterized by a percentage change in the measured impedance relative to the impedance threshold.

12. (Original) The method according to claim 1, wherein the predetermined factor is characterized by a fixed delta change in the measured impedance relative to the impedance threshold.

13. (Original) The method according to claim 1, wherein the predetermined factor is characterized by both a percentage change and a fixed delta change in the measured impedance relative to the impedance threshold.

14. (Original) The method according to claim 1, wherein measuring the impedance comprises delivering a pace pulse via the atrial lead and deriving the impedance measurement using the delivered pace pulse.

15. (Original) The method according to claim 1, wherein measuring the impedance comprises delivering a stimulus via the atrial lead and deriving the impedance measurement using the delivered stimulus, the stimulus having an energy insufficient to effect atrial capture.

16. (Original) The method according to claim 1, wherein the impedance is measured after detection of an atrial arrhythmic event and prior to atrial ATP therapy delivery.

17. (Original) The method according to claim 1, wherein the impedance is measured after an atrial arrhythmic episode is declared and prior to atrial ATP therapy delivery.

18. (Original) The method according to claim 1, wherein measuring the impedance comprises taking a plurality of impedance measurements after detection of an atrial arrhythmic event and prior to atrial ATP therapy delivery.

19. (Original) The method according to claim 1, wherein measuring the impedance comprises taking a plurality of impedance measurements after an atrial arrhythmic episode is declared and prior to atrial ATP therapy delivery.

20. (Original) A method of managing atrial antitachycardia pacing (ATP) therapy in response to possible atrial lead dislodgment, comprising:

measuring an impedance, a capture threshold, and a sense amplitude respectively associated with an atrial lead for a particular patient;

comparing the impedance, capture threshold, and sense amplitude measurements with impedance, capture threshold, and sense amplitude limits, respectively; and

disabling atrial ATP therapy delivery in response to any of the impedance, capture threshold, and sense amplitude measurements deviating from the impedance, capture

threshold, and sense amplitude limits by predetermined impedance, capture threshold, and sense amplitude factors, respectively.

21. (Original) The method according to claim 20, further comprising:

detecting an ambiguity in the impedance, capture threshold, and sense amplitude deviations; and

disabling atrial ATP therapy delivery in response to the detected ambiguity.

22. (Original) The method according to claim 20, further comprising:

detecting an ambiguity in the impedance, capture threshold, and sense amplitude deviations; and

in response to the detected ambiguity, disabling atrial ATP therapy delivery in response to the measured impedance deviating from the impedance limit by the predetermined factor.

23. (Original) The method according to claim 22, further comprising disabling atrial ATP therapy delivery in response to the measured impedance deviating from the impedance limit by the predetermined factor irrespective of a lack of ambiguity relative to the capture threshold and sense amplitude deviations.

24. (Original) The method according to claim 20, wherein disabling atrial ATP therapy delivery comprises, upon detection of an atrial arrhythmia, disabling ATP therapy in response to the measured impedance deviating from the impedance limit by the predetermined factor.

25. (Original) The method according to claim 20, wherein disabling ATP therapy delivery comprises, upon detection of an atrial arrhythmia, ignoring the capture threshold and sense amplitude deviations, and disabling ATP therapy in response only to the measured impedance deviating from the impedance limit by the predetermined factor.

26. (Original) The method according to claim 20, wherein one or more of the impedance, capture threshold, and sense amplitude limits are developed from a single atrial lead measurement.

27. (Original) The method according to claim 20, wherein one or more of the impedance, capture threshold, and sense amplitude limits are developed from a plurality of atrial lead measurements.

28. (Original) The method according to claim 20, wherein one or more of the impedance, capture threshold, and sense amplitude limits are developed from one or more atrial lead measurements taken immediately before currently made impedance, capture threshold, and sense amplitude measurements.

29. (Original) The method according to claim 20, wherein one or more of the impedance, capture threshold, and sense amplitude limits are developed from one or more atrial lead measurements taken a predetermined amount of time prior to the respective impedance, capture threshold, and sense amplitude measurements.

30. (Original) The method according to claim 29, wherein the predetermined amount of time is within about one day.

31. (Original) The method according to claim 20, wherein the predetermined impedance, capture threshold, and sense amplitude factors are characterized by a percentage change in the impedance, capture threshold, and sense amplitude measurements relative to the impedance, capture threshold, and sense amplitude limits, respectively.

32. (Original) The method according to claim 20, wherein the predetermined impedance, capture threshold, and sense amplitude factors are characterized by a fixed delta change in

the impedance, capture threshold, and sense amplitude measurements relative to the impedance, capture threshold, and sense amplitude limits, respectively.

33. (Original) The method according to claim 20, wherein the predetermined impedance, capture threshold, and sense amplitude factors are characterized by both a percentage change and a fixed delta change in the impedance, capture threshold, and sense amplitude measurements relative to the impedance, capture threshold, and sense amplitude limits, respectively.

34. (Original) The method according to claim 20, wherein the impedance measurement is taken after detection of an atrial arrhythmic event and prior to atrial ATP therapy delivery.

35. (Original) The method according to claim 20, wherein the impedance measurement is taken after an atrial arrhythmic episode is declared and prior to atrial ATP therapy delivery.

36. (Currently amended) An apparatus for managing atrial antitachycardia pacing (ATP) therapy in response to possible atrial lead dislodgment, comprising:

an implantable housing;

detection circuitry provided in the housing;

energy delivery circuitry provided in the housing and configured to deliver an atrial ATP therapy;

a lead system respectively coupled to the detection and energy delivery circuitry, the lead system comprising at least an atrial lead;

memory provided in the housing; and

a control system provided in the housing and coupled to the memory within which an impedance threshold developed for a particular patient is stored, the control system measuring an impedance of the atrial lead for the particular patient and comparing the measured impedance with the impedance threshold, the control system disabling delivery of

the atrial ATP therapy from the energy delivery circuitry in response to the measured impedance deviating from the impedance threshold by a predetermined factor.

37. (Original) The apparatus according to claim 36, wherein the impedance threshold is developed from a single atrial lead impedance measurement.

38. (Original) The apparatus according to claim 36, wherein the impedance threshold is developed from a plurality of atrial lead impedance measurements.

39. (Original) The apparatus according to claim 36, wherein the impedance threshold is characterized by a mean or a median of a plurality of atrial lead impedance measurements.

40. (Original) The apparatus according to claim 36, wherein the impedance threshold is characterized by an atrial lead impedance measurement taken immediately before a currently measured impedance.

41. (Original) The apparatus according to claim 36, wherein the impedance threshold is characterized by at least one atrial lead impedance measurement taken a predetermined amount of time prior to the measured impedance.

42. (Original) The apparatus according to claim 41, wherein the predetermined amount of time is about one day prior to a day on which the impedance measurement is taken.

43. (Original) The apparatus according to claim 41, wherein the predetermined amount of time is defined by more than one day prior to a day on which the impedance measurement is taken.

44. (Original) The apparatus according to claim 36, wherein the control system measures the impedance of the atrial lead by taking a plurality of impedance measurements.

45. (Original) The apparatus according to claim 36, wherein the control system measures the impedance of the atrial lead by taking a single impedance measurement.

46. (Original) The apparatus according to claim 36, wherein the predetermined factor is characterized by a percentage change in the measured impedance relative to the impedance threshold.

47. (Original) The apparatus according to claim 36, wherein the predetermined factor is characterized by a fixed delta change in the measured impedance relative to the impedance threshold.

48. (Original) The apparatus according to claim 36, wherein the predetermined factor is characterized by both a percentage change and a fixed delta change in the measured impedance relative to the impedance threshold.

49. (Currently amended) The apparatus according to claim 36, wherein the control system measures the impedance using a pace pulse generated by the energy delivery circuitry and delivered via the atrial lead.

50. (Currently amended) The apparatus according to claim 36, wherein the control system measures the impedance using a stimulus generated by the energy delivery circuitry and delivered via the atrial lead, the stimulus having an energy insufficient to effect atrial capture.

51. (Currently amended) The apparatus according to claim 36, wherein the control system measures the impedance after detection of an atrial arrhythmic event by the detection circuitry and prior to atrial ATP therapy delivery.

52. (Currently amended) The apparatus according to claim 36, wherein the control system measures the impedance after detection of an atrial arrhythmic episode is declared by the detection circuitry and prior to atrial ATP therapy delivery.

53. (Currently amended) The apparatus according to claim 36, wherein the control system measures the impedance by taking a plurality of impedance measurements after detection of an atrial arrhythmic event by the detection circuitry and prior to atrial ATP therapy delivery.

54. (Currently amended) The apparatus according to claim 36, wherein the control system measures the impedance by taking a plurality of impedance measurements after detection of an atrial arrhythmic episode is declared by the detection circuitry and prior to atrial ATP therapy delivery.

55. (Original) The apparatus according to claim 36, wherein the control system further:

measures a capture threshold and a sense amplitude respectively associated with the atrial lead;

compares the capture threshold and sense amplitude measurements with capture threshold and sense amplitude limits, respectively; and

disables atrial ATP therapy delivery in response to one or more of the impedance measurement deviating from the impedance threshold by a predetermined impedance factor or the capture threshold and sense amplitude measurements deviating from the capture threshold and sense amplitude limits by predetermined capture threshold and sense amplitude factors, respectively.

56. (Original) The apparatus according to claim 55, wherein the control system further:

detects an ambiguity in the impedance, capture threshold, and sense amplitude deviations; and

in response to the detected ambiguity, disables atrial ATP therapy delivery.

57. (Original) The apparatus according to claim 56, wherein the control system disables atrial ATP therapy delivery in response to the measured impedance deviating from the impedance threshold by the predetermined factor irrespective of a lack of ambiguity relative to the capture threshold and sense amplitude deviations.

58. (Original) The apparatus according to claim 55, wherein the control system further:

detects an ambiguity in the impedance, capture threshold, and sense amplitude deviations; and

in response to the detected ambiguity, disables atrial ATP therapy delivery in response to the measured impedance deviating from the impedance threshold by the predetermined factor.

59. (Original) The apparatus according to claim 36, wherein the control system, upon detection of an atrial arrhythmia, disables atrial ATP therapy delivery in response to the measured impedance deviating from the impedance threshold by the predetermined factor.

60. (Previously presented) The apparatus according to claim 55, wherein the control system, upon detection of an atrial arrhythmia, ignores the capture threshold and sense amplitude deviations and disables atrial ATP therapy in response to only the measured impedance deviating from the impedance threshold by the predetermined factor.

61. (Original) A system for managing atrial antitachycardia pacing (ATP) therapy in response to possible atrial lead dislodgment, comprising:

means for measuring an impedance of an atrial lead for a particular patient;

means for comparing the measured impedance with an impedance threshold developed for the particular patient; and

means for disabling atrial ATP therapy delivery in response to the measured impedance deviating from the impedance threshold by a predetermined factor.

62. (Original) A system for managing atrial antitachycardia pacing (ATP) therapy in response to possible atrial lead dislodgment, comprising:

means for measuring an impedance associated with an atrial lead for a particular patient;

means for measuring a capture threshold associated with the atrial lead for the particular patient;

means for measuring a sense amplitude associated with the atrial lead for the particular patient;

means for comparing impedance, capture threshold, and sense amplitude measurements with impedance, capture threshold, and sense amplitude limits, respectively; and

means for disabling atrial ATP therapy delivery in response to any of the impedance, capture threshold, and sense amplitude measurements deviating from the impedance, capture threshold, and sense amplitude limits by predetermined impedance, capture threshold, and sense amplitude factors, respectively.